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10/662,394	09/16/2003	Yuichi Akiyama	1344.1125	2179

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EXAMINER	
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/662,394	AKIYAMA ET AL.	
	Examiner	Art Unit	
	DANNY W. LEUNG	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *16 December 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 and 3-16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 and 3-16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Furthermore, the key to supporting any rejection under 35 U.S.C. 103 is the clear articulation of the reason(s) why the claimed invention would have been obvious. The Supreme Court in *KSR International Co. v. Teleflex Inc.* note that the analysis supporting a rejection under 35 U.S.C. 103 should be made explicit. The Court quoting *In re Kahn* 441 F.3d977,988,78 USPQ2d1329,1336(Fed.Cir.2006) stated that "[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness."

2. Claims 1, 3-6, 12, 15, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Chou et al.** *(US006859268B2)*, in view of **Chung et al.** *(US006813021B2)*.

Regarding claim 4, **Chou** discloses an optical transmission system *(fig 1)* in which an optical signal is transmitted from an optical transmission apparatus *(fig 1, transmitter 15)* to an optical receiving apparatus *(fig 1, receiver 240)* via an optical transmission path *(fig 1, transmission fiber 22)*, comprising:

a degree of polarization measurement section *(fig 1, polarimeter 110)* that measures a degree of polarization of said optical signal *(col 7, ln 13-44, polarimeter separates the optical into different polarizations and measures the degrees of polarization)*; and

a section that stores an initial value of said degree of polarization of said optical signal, and determines a change amount in time of a measured value of the degree of polarization obtained in said degree of polarization measuring section relative to said stored initial value *(col 9, ln 8-32 degree of polarization for each state of polarization is calculated and stores in memory, <u>such calculation is repeated in a cycle,</u> and then algorithm 600 collects data points and fits a linear-least-squares line across the data point, and therefore inherently determines a change amount of DOP per unit time (the slope of the linear-least-squares function is the change amount of DOP in unit time))*. **Chou** does not disclose expressly wherein the system comprising an optical SNR calculation section that determines a change amount in an optical signal to noise ratio of said optical signal based on a measured value of the degree of polarization obtained in said degree of polarization measuring section.

Chung, from the same field of endeavor, teaches an optical SNR calculation section that determines a change amount in an optical signal to noise ratio of said optical signal according to a change amount in time of a measured value of the degree of polarization obtained in said degree of polarization measuring section *(the determining of the difference in OSNR is based on a measured value of a difference in degree of polarization of said optical signal in different times (col 7, ln 22-31))*. Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to apply **Chung's** optical SNR calculation technique onto **Chou**'s system, such that **Chou's** computer 120 acts as an optical SNR calculation section that

determines a change amount in an optical signal to noise ratio of said optical signal according to a change amount in time of a measured value of the degree of polarization obtained in said degree of polarization measuring section as suggested by **Chung**.

Furthermore, it would have been obvious for a person of ordinary skill in the art at the time of invention to recognized that applying a known technique such as that of **Chung's** onto **Chou's** base device/method/system upon which the claimed invention can be seen as an "improvement" would have yielded predictable results and resulted in an improvement system, since **Chung's** teaching is capable of enhancing performance of OSNR measurement accuracy.

Therefore, the rationale of applying a known technique (**Chung's**) to a known device/method/system (**Chou's**) ready for improvement to yield predictable results has been clearly articulated herein with the *Graham* inquiries and findings as presented above. In *Dann v. Johnston* 525 U.S. 219, 189 USPQ257 (1976) The Court held that "[t]he gap between the prior art and respondent's system is simply not so great as to render the system nonobvious to one reasonable skilled in the art."

As to claims 1 and 15, it would have been obvious for a person of ordinary skill in the art at the time when the invention was made to use the apparatus of the combination of **Chou and Chung** as discussed above to perform the method of claims 1 and 15 at different times, for the same reasons as stated above regarding claim 4.

As to claim 3, **Chou** further teaches wherein when the measured value of said degree of polarization exceeds said initial value, the measured value is set as said initial value *(col 14, ln 48-61, "Each data point can be used to increment a matrix, M, with very few floating operations by continuously updating M to include new data and throw out old data").*

As to claim 5, **Chou** further discloses wherein said degree of polarization measurement section measures the degree of polarization of an optical signal propagated through said optical transmission path to be input to said optical receiving apparatus *(col 5, ln 12-42 polarimeter 110 measure DOP of optical signal along path 160, which is to be input to receiver 240).*

As to claim 6, **Chou** further discloses an optical transmission system according to claim 4, further comprising:

at least one optical repeater *(100, fig 1)* on said optical transmission path, wherein,

when an optical signal sent from said optical transmission apparatus is transmitted through a plurality of repeating intervals *(100 and 200, fig 1)* to be received by said optical receiving apparatus *(240, fig 1)*,

said degree of polarization measurement section measures the degree of polarization of at least one optical signal among an optical signal output from said optical transmission apparatus each optical signal propagated through each repeating intervals and an optical signal input to said optical receiving apparatus *(col 5, ln 56-67).*

Regarding claim 12, **Chou** teaches An optical transmission system comprising:

an automatic polarization mode dispersion compensation apparatus *(700, fig 9)* including

a polarization mode dispersion compensator *(750, fig 9)* compensating for polarization mode dispersion generated in said optical signal *(col 11, ln 19-28, polarization transformer 750 cause the transformer to rotate the PSP relative to the delay module to change the polarization to compensate for the dispersion)*,

a degree of polarization measuring device *(770, fig 9)* measuring the degree of polarization of an optical signal whose polarization mode dispersion has been compensated by

said polarization mode dispersion compensator *(col 10, ln 51-col 11, ln 41, the algorithm determines the Principle State of Polarization after the compensation),* and

a control circuit *(780, fig 9)* controlling a compensation amount in said polarization mode dispersion compensator based on the measured value of the degree of polarization obtained by the degree of polarization measuring device in said automatic polarization mode dispersion compensation apparatus at different times *(col 11, ln 29-53, the algorithm to calculate compensation is based on the stored average Principle States of Polarization, which inherently is continuously measured at different times; col 11, ln 50-col 12, ln 65, all the formulas to calculate the DOP is integrated over time).*

Chou further teaches PMD analysis may be performed from the measurement of degree of polarization *(col 7, ln 13-col 8, ln 34).* **Chou** does not disclose expressly wherein the system comprising an optical SNR calculation section that determines an optical signal to noise ratio of said optical signal based on a measured value of the degree of polarization obtained in said degree of polarization measuring section.

Chung, from the same field of endeavor, teaches an optical SNR calculation section that determines a change amount in an optical signal to noise ratio of said optical signal based on a measured value of the degree of polarization obtained in said degree of polarization measuring section *(the determining of the difference in OSNR is based on a measured value of a difference in degree of polarization of said optical signal in different times (col 7, ln 22-31)).* Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to apply **Chung's** optical SNR calculation technique onto **Chou**'s system, such that **Chou's** computer 120 acts as an optical SNR calculation section that determines a change amount in an optical

signal to noise ratio of said optical signal based on a measured value of the degree of polarization obtained in said degree of polarization measuring section as suggested by **Chung**.

Furthermore, it would have been obvious for a person of ordinary skill in the art at the time of invention to recognized that applying a known technique such as that of **Chung's** onto **Chou's** base device/method/system upon which the claimed invention can be seen as an "improvement" would have yielded predictable results and resulted in an improvement system, since **Chung's** teaching is capable of enhancing performance of OSNR measurement accuracy.

Therefore, the rationale of applying a known technique (**Chung's**) to a known device/method/system (**Chou's**) ready for improvement to yield predictable results has been clearly articulated herein with the *Graham* inquiries and findings as presented above. In *Dann v. Johnston* 525 U.S. 219, 189 USPQ257 (1976) The Court held that "[t]he gap between the prior art and respondent's system is simply not so great as to render the system nonobvious to one reasonable skilled in the art."

Regarding claim 16, **Chou** discloses a method of monitoring a signal transmitted via an optical fiber *(fig 9),* comprising:

correcting a received signal by compensating for a polarization mode dispersion of the signal along the optical fiber *(col 11, ln 1-19, CPU 720 continuously monitors DOP value calculated by CPU 780 to determine delay needed at 760 to compensate for PMD);*

splitting a part of the signal which has been corrected for polarization mode dispersion *(fig 9 signal from delay module 760 is split to the receiver and the polarimeter)*; and

measuring a degree of polarization of the part of the signal at different times *(fig 9, polarimeter 770 continuously measure the DOP and store them at CPU780),* and comparing the

measured degree of polarization with a reference value of the degree of polarization to monitor a change in DOP *(col 11, ln 10-19),* wherein if the measured degree of polarization exceeds the reference value, the reference value is set equal to the measured degree of polarization, and the measured degree of polarization is also used to control the compensating for the polarization mode dispersion *(col 11, ln 19-53, CPU detects a decrease in DOP, and determine a new trailing PSP, a reference value, and it is used to determine the PMD time delay, which is used for compensate for PMD).*

Chou does not disclose expressly wherein the comparing the measured degree of polarization with a reference value of the degree of polarization is to monitor a change of the signal to noise ratio. **Chung**, from the same field of endeavor, teaches an optical SNR calculation section that determines a change amount in an optical signal to noise ratio of said optical signal based on a measured value of the degree of polarization obtained in said degree of polarization measuring section *(the determining of the difference in OSNR is based on a measured value of a difference in degree of polarization of said optical signal in different times (col 7, ln 22-31)).* Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to apply **Chung's** optical SNR calculation technique onto **Chou**'s system, such that **Chou's** CPU 780 acts as an optical SNR calculation section that determines a change amount in an optical signal to noise ratio of said optical signal based on a measured value of the degree of polarization obtained in said degree of polarization measuring section as suggested by **Chung**.

Furthermore, it would have been obvious for a person of ordinary skill in the art at the time of invention to recognized that applying a known technique such as that of **Chung's** onto **Chou's** base device/method/system upon which the claimed invention can be seen as an

"improvement" would have yielded predictable results and resulted in an improvement system, since **Chung's** teaching is capable of enhancing performance of OSNR measurement accuracy.

Therefore, the rationale of applying a known technique **(Chung's)** to a known device/method/system **(Chou's)** ready for improvement to yield predictable results has been clearly articulated herein with the *Graham* inquiries and findings as presented above. In *Dann v. Johnston* 525 U.S. 219, 189 USPQ257 (1976) The Court held that "[t]he gap between the prior art and respondent's system is simply not so great as to render the system nonobvious to one reasonable skilled in the art."

3. Claims 7-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Chou et al.** *(US006859268B2)*, in view of **Chung et al.** *(US006813021B2)*, as applied to claim 4 above, and further in view of **Fatehi et al.** *(US006512612B1)*.

Regarding claim 7, **the combination of Chou and Chung** discloses the system in accordance to claim 4 as discussed above. **Chou** further discloses wherein a plurality of optical signals is transmitted, and said degree of polarization measurement section measure the degrees of polarization of the respective optical signals *(col 5, ln 13-23)*. **The combination of Chou and Chung** does not disclose expressly having wavelength division multiplexed light containing a plurality of optical signals with different wavelengths. **Fatehi**, from the same field of endeavor, teaches an optical transmission system, where a wavelength division multiplexed light containing a plurality of optical signals with different wavelengths is transmitted *(col 3, ln 61-col 4, ln 4)*, and a section *(250, fig 5)* that measures properties of the optical signals of respective wavelengths contained in said wavelength division multiplexed light *(col 9, ln 62-col 10, ln 21)*.

Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to transmit a wavelength division multiplexed light containing a plurality of optical signals, as taught by **Fatehi**, onto **the combination of Chou and Chung's** system with SNR calculation section and a polarization measurement section, such that **the combination of Chou and Chung's** degree of polarization measurement section measures the degrees of polarization of optical signals of respective wavelengths contained in said wavelength division multiplexed light, and **the combination of Chou and Chung's** optical signal to noise ratio calculation section determines optical signal to noise ratios corresponding to respective wavelengths, based on measured values of the degrees of polarization obtained by said degree of polarization measurement section as discussed above regarding claim 4. The motivation for doing so would have been to increase the bandwidth of signal transmission while maintaining signal quality by transmitting a wavelength division multiplexed light containing a plurality of optical signals and measuring the noise of the respective signals accordingly.

As to claim 8, **Chou** further discloses wherein said degree of polarization measurement section and said optical signal to noise ratio calculation section are provided in plural number *(101 and 200, fig 1, also see 116a, 117a, and 119a, fig 2)*. It would be obvious for a person of ordinary skill in the art to use such degree of polarization measurement section and said optical signal to noise ratio calculation section provided in plural number as suggested by **Chou** for each of the optical signals of respective wavelengths contained in said wavelength division multiplexed light in **the combination of Chou, Chung, and Fatehi's** system. The motivation for doing so would have been to be able to detect signal quality in each of the individual channels.

Claim 9 is rejected for the same reasons as stated above regarding claim 7, because in addition to the limitations in claim 7, **Chou** further teaches a selection section that selects one optical signal from the optical signals to be measured *(col 5, ln 56-col6, ln 5, "beam splitters 114, 116, 117, and mirror 119 couple optical signals propagating along beam path 112 towards detector modules 114a, 116a, 117a, 119a respectively... Each detector module measures specific optical properties of the optical signal...").* **Fatehi** further teaches a selection section that selects one optical signal from the optical signals to be measured *(col 11, ln 35-51).* It would have been obvious to combine **Chou, Chung,** and **Fatehi** for the same reason as stated regarding claim 7, such that a selection section, such as that of **Chou's or Fatehi's**, selects one optical signal from the optical signals of respective wavelengths contained in **the combination of Chou, Chung, and Fatehi's** wavelength division multiplexed light, wherein said degree of polarization measurement section measures the degree of polarization of an optical signal selected by said selection section, and said optical signal to noise ratio calculation section determines an optical signal to noise ratio of the optical signal selected by said selection section, based on the measured value of the degree of polarization obtained by said degree of polarization measurement section as discussed above regarding claim 7.

As to claim 10, **Fatehi** further discloses said selection section *(250, fig 5)* includes a demultiplexer *(202, fig 5)* demultiplexing said wavelength division multiplexed light according to wavelength, and an optical switch selecting one optical signal out of the optical signals of respective wavelengths demultiplexed by said demultiplexer *(col 11, ln 35-51).* Therefore, it would be obvious for a person of ordinary skill in the art to feed such signal from **Fatehi**'s selection section it to **the combination of Chou, Chung, and Fatehi's** degree of polarization

measurement section as discussed above regarding claim 9. The motivation for doing so would have been to reduce cost by only measuring a selected portion of the signals.

4. Claim 11 rejected under 35 U.S.C. 103(a) as being unpatentable over **Chou et al.** *(US006859268B2)*, in view of **Chung et al.** *(US006813021B2)*, further in view of **Fatehi et al.** *(US006512612B1)*, as applied to claim 9 above, and further in view of **Suzuki** *(US006154273A)*.

Regarding claim 11, **the combination of Chou, Chung, and Fatehi** discloses the method in accordance to claim 9 as discussed above. **It** does not disclose expressly wherein said selection section includes a variable wavelength optical filter extracting an optical signal of one wavelength from said wavelength division multiplexed light, to feed it to said degree of polarization measurement section. **Suzuki**, from the same field of endeavor, teaches an optical transmission system having a selection section includes a variable wavelength optical filter *(62, 64, fig 12)* extracting an optical signal of one wavelength from a wavelength division multiplexed light, to feed it to a measurement section *(col 13, ln 35-62)*. Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to use a variable wavelength optical filter such as that of **Suzuki**'s onto **the combination of Chou, Chung, and Fatehi**'s system to extract an optical signal of one wavelength from said wavelength division multiplexed light, to feed it to said degree of polarization measurement section. The motivation for doing so would have been to reduce complexity of the measuring system by using a variable wavelength optical filter to eliminate signals that are not being measured.

5. Claims 13 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over **Chou et al.** *(US006859268B2)*, in view of **Chung et al.** *(US006813021B2),* as applied to claim 4 above, and further in view of **Eder et al.** *(US006885820B2)*.

Regarding claim 13, **the combination of Chou and Chung** discloses the system in accordance to claim 4 as discussed above. **Chou** further discloses the system further comprising: a control section *(220, fig 1)* controlling the optical signal so that the optical signal to noise ratio of the optical signal received by said optical receiving apparatus is a previously set value. **The combination** does not disclose expressly a control section controlling a power of an optical signal output from said optical transmission apparatus, based on the optical signal to noise ratio determined by said optical signal to noise ratio calculation section, so that the optical signal to noise ratio of the optical signal received by said optical receiving apparatus is a previously set value. **Eder**, from the same field of endeavor, teaches a control section *(OSNR controller, fig 1)* controlling a power of an optical signal output from said optical transmission apparatus *(col 7, ln 41-47)*,

based on the optical signal to noise ratio determined by a optical signal to noise ratio calculation section *(col 7, ln 19-47, OSNR signal controls the adjustable attenuators VOA2 and VOAn, which controls the power of optical output of the transmitter)*,

so that the optical signal to noise ratio of the optical signal received by said optical receiving apparatus is a previously set value *(col 7, ln 42-54)*. Therefore, it would have been obvious for a person of ordinary skill in the art at the time of invention to apply a control section controlling the power of an optical signal output from the combination of Chou and Chung's transmission apparatus, based on the optical signal to noise ratio determined by the combination

of Chou and Chung's signal to noise ratio calculation section, so that the optical signal to noise ratio of the optical signal received by said optical receiving apparatus is a previously set value as taught by **Eder**. The motivation for doing so would have been to achieve the optimum optical signal to noise ratio by adjusting transmission power.

As to claim 14, **Eder** further discloses wherein, when a wavelength division multiplexed light containing a plurality of optical signals with different wavelengths is transmitted *(col 7, ln 1-14)*,

said control section performs a pre-emphasis control of the optical signal power of each wavelength output from said optical transmission apparatus *(col 7, ln 41-54)*,

based on the optical signal to noise ratio corresponding to each wavelength determined by said optical signal to noise ratio calculation section *(col 7, ln 14-36)*.

Response to Arguments

6. Applicant's arguments filed 12/16/2008 have been fully considered but they are not persuasive.

7. Applicant argues that *"Chou does not disclose or even suggest any concern to the time evolution of the measured degree of polarization"*, but agrees that *"Chou discuss <u>a series of measurements</u> of different states of polarization (SOP) in order to determine the principal states of polarizations (PSPs)"*. While such features (i.e. *"time evolution of the measured degree of polarization"*, whatever that means) are not recited in the rejected claim(s) See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993); Examiner respectfully submitted that Chou's teaching of calculating the State Of Polarization is an algorithm that is performed repetitively and continuously over a period time *(col 9, ln 1-27)*, and therefore, <u>the different degrees of</u>

polarizations are saved in the memory *with a corresponding time value during the repeated measuring steps*, such that a linear-lease-squares line can be fit onto the data points in the memory to find the maximum DOP, amongst other analysis. Therefore, Chou's teaching suggests that "determining a change amount in *a degree of polarization* of said optical signal" "according to a change amount in time" can be performed by a person of ordinary skilled in the art.

8. Applicant argues that Chou makes no reference to a relationship between the optical signal to noise ratio (OSNR) and the measured degree of polarization. Examiner agrees that such limitation is not expressly taught by Chou, however, Chung teaches a technique of measuring the change in OSNR according to a change in degree of polarization over time, a "polarization-nulling method", in which the polarization is changing (360 degree, continuously) while OSNR is being measured *(col 7, ln 1-39 of Chung)*. Therefore, it would have been obvious to apply Chung's OSNR measuring/calculating technique onto Chou's system, and yield predictable results.

9. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (Chung's OSNR measurement is performed for light in a narrow range of wavelength, *i.e. the feature of OSNR being measured is not in a narrow range of wavelength*) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

10. Applicant further argues that the linear interpolation referred to Chung is an interpolation across the wavelength spectra and not an interpolation in time. However, Chung's method of measuring the wavelength spectra **is** over a period of time during which polarization wave-plate rotates. Therefore, Chung's method could be perceived as a technique this is performed over a period of time, measuring a change in OSNR over a change in polarization over time. Such concept would have been obvious to a person of ordinary skill in the art to apply it onto Chou's base system to yield a predictable result.

Conclusion

11. The prior art made of record in previous action(s) and not relied upon is considered pertinent to applicant's disclosure.

The following patents are cited to further show the state of the art with respect to measurement of Degree Of Polarization and Optical Signal to Noise Ratio in optical communications in general:

12. (US-20010008452 or US-20010028760 or US-20020018265 or US-20020024704 or US-20030202795 or US-20040067057 or US-20040202480).did. or (US-5327511 or US-5659412 or US-5930414 or US-5949560 or US-5986746 or US-5994898 or US-6097525 or US-6130766 or US-6154273 or US-6310709 or US-6317240 or US-6421153 or US-6570682 or US-6671045 or US-6671464 or US-6678431 or US-6681081 or US-6690454 or US-6707541 or US-6710904 or US-6792168 or US-6807321 or US-6813021 or US-6859268 or US-6885820 or US-6901225) or (US-6934479 or US-6947194 or US-6950611 or US-7006736 or US-7024058 or US-7024111 or US-7027198 or US-7030973 or US-7043122 or US-7050658 or US-7067795 or US-7142736 or

US-7203428 or US-7218436 or US-7308204) or (EP-863626 or JP-2001168813 or US-20010008452 or US-20020048062)

13. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANNY W. LEUNG whose telephone number is (571)272-5504. The examiner can normally be reached on 11:30am-9:00pm Mon-Thur.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

DANNY W LEUNG
Examiner
Art Unit 2613

/D. W. L./
Examiner, Art Unit 2613
4/9/2009

/Kenneth N Vanderpuye/
Supervisory Patent Examiner, Art Unit 2613